alternate conformation is different from the conformational form as defined by:

-(a) the atomic coordinates as defined in Annexes I, II or III obtained by crystallography (the Annexes 1, II or III include respectively the atomic coordinates which define the *P. cynomolgi* $MSP1_{19}$, *P. vivax* $MSP1_{19}$ and *P. falciparum* $MSP1_{19}$ three-dimensional molecular structure); and

-(b) the NMR fingerprints as illustrated in Figures 12.0a to 12.2c.--

After the last page (Abstract), replace the Sequence Listing filed October 22, 1999 with the substitute Sequence Listing attached hereto.

IN THE CLAIMS

Please cancel Claims 117-133, 138, 144, 146, and 147 without prejudice.

Please amend the claims as shown in the attached marked-up copy to read as follows:

134. (Amended) A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as an active principle a recombinant protein whose essential constituent polypeptide sequence comprises:

a) a 19 kilodalton (p19) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium* parasite that is infectious in man, other than *Plasmodium vivax*; or a portion of said 19 kilodalton (p19) C-terminal fragment, other than a fragment from *Plasmodium vivax,* which induces an immune response and which can inhibit parasitemia *in vivo* in a host infected with said *Plasmodium* parasite; wherein said C-terminal fragment remains anchored to the surface of said plasmodium parasite at an end of its penetration phase into human erythrocytes during an infectious cycle and wherein said recombinant protein comprises conformational epitopes recognized by human antisera which

are contained in two epidermal growth factor regions and is unstable in a reducing agent; and

b) alum.

136. (Amended) The vaccinating composition of Claim 134, wherein said 19 kilodalton (p 19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annexes I or III; and NMR fingerprints of Figures 12.0a to 12.0c or 12.2a to 12.2c.

140. (Amended) The vaccinating composition of Claim 139, wherein said polypeptide region is the C-terminal region of p33 resulting from the cleavage of p42 of a same MSP-1 protein.

143. (Amended) The vaccinating composition of Claim 134, wherein said C-terminal fragment remains anchored to the surface of said *Plasmodium* parasite via a glycosylphosphatidylinositol group which anchors the pl9 fragment to the membrane of a eukaryotic cell infected with the MSP-1 protein.

145. (Amended) A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as an active principle a recombinant protein whose essential constituent polypeptide sequence comprises:

a) a 19 kilodalton (pl9) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium cynomolgi* parasite that is infectious in man, and wherein said recombinant protein comprises conformational epitopes recognized by human antisera, which are contained in two epidermal growth factor regions and is unstable in a reducing agent; and

b) alum.

149. (Amended) The vaccinating composition of Claim 145, wherein said 19 kilodaltan (p 19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1)

protein a) has atomic coordinates in Annex I; and the NMR fingerprints of Figures 12.0a to 12.0c.

Please add the following claims:

150. (New) The vaccinating composition of Claim 143, which is hydrosoluble.

151. (New) A recombinant protein whose essential constituent polypeptide sequence comprises:

(a) a leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met_1 to Asp_{32}; and

(b) a 19 kilodalton C -terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium falciparum* from Asn_{1613} to Ser_{1705} or a portion of said C-terminal fragment which induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium parasite.*

152. (New) A recombinant protein whose essential constituent polypeptide sequence comprises:

(c) a leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met_1 to Asp_{32}; and

(d) a 19 kilodalton C -terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium falciparum* from Asn_{1613} to Ser_{1726} or a portion of said C-terminal fragment which induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

153. (New) A recombinant protein whose essential constituent polypeptide sequence comprises:

(e) a leader sequence comprising thirty-two amino acids of a surface protein 1 of a

merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met_1 to Asp_{32}; and

(f) a 19 kilodalton C-terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium cynomolgi* from Lys_{276} to Ser_{380} or a portion of said C-terminal which induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

154. (New) The recombinant protein of Claim 151, wherein said 19 kilodalton (pig) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annex III; and NMR fingerprints of Figures 12.2 a to 12.2c.

155. (New) The recombinant protein of Claim 152, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annex III; and NMR fingerprints of Figures 12.2 a to 12.2c.

156. (New) The recombinant protein of Claim 153 wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annex I; and NMR fingerprints of Figures 12.0 a to 12.0c.

157. (New) The recombinant protein of Claim 151, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide region containing less than 50 amino acids of a C-terminal region of p33.

158. (New) The recombinant protein of Claim 152, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide region containing less than 50 amino acids of a C-terminal region of p33.

159. (New) The recombinant protein of Claim 153, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide region containing less than 50 amino acids of a C-terminal region of p33.

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160. (New) The recombinant protein of Claim 157, wherein said polypeptide region

is the C-terminal region of p33 resulting from the cleavage of p42 of the same MSP-1 protein.

161. (New) The recombinant protein of Claim 158 wherein said polypeptide region is the C-terminal region of p33 resulting from the cleavage of p42 of the same MSP-1 protein.

162. (New) The recombinant protein of Claim 159, wherein said polypeptide region is the C-terminal region of p33 resulting from the cleavage of p42 of the same MSP-1 protein.

163. (New) The recombinant protein of Claim 157, wherein said polypeptide region contains less than 10 amino acid residues.

164. (New) The recombinant protein of Claim 158, wherein said polypeptide region contains less than 10 amino acid residues.

165. (New) The recombinant protein of Claim 159, wherein said polypeptide region contains less than 10 amino acid residues.

166. (New) The recombinant protein of Claim 152, wherein said polypeptide has a glycosylphosphatidylinositol group which anchors the p19 fragment to the membrane of a eukaryotic cell expressing the MSP-1 protein.

167. (New) An oligomer of the recombinant protein of Claim 151.

168. (New) An oligomer of the recombinant protein of Claim 152.

169. (New) An oligomer of the recombinant protein of Claim 153.

170. (New) The oligomer of Claim 167, wherein said oligomer comprises from 2 to 50 monomer units of a sequence of said recombinant protein.

171. (New) The oligomer of Claim 168, wherein said oligomer comprises from 2 to 50 monomer units of a sequence of said recombinant protein.